

High Performance Buildings are Easily Within Reach

High Performance Building Success Story

March 2006

Colorado Department of Labor and Employment

Fast Facts

- Groundbreaking for 40,000 ft² addition Dec 17, 2003, Completed Dec. 3, 2004
- LEED Certified, August 2005
- LEED Innovation Design Points for green housekeeping, local resource use, and high use of recycled content materials
- Recycled 1374 tons of concrete
- Addition cost approximately \$100 per ft²
- CDLE Employs 575 total, with 180 in new addition plus conference and training space
- Awarded one of the Top 2005 Projects by Colorado Construction Magazine



Lance Shepherd and Angie Fyfe stand by architectural glass block that brings natural light into the CDLE building

Tight budgets and construction deadlines are standard operating procedures for State construction projects, yet the Colorado Department of Labor and Employment's (CDLE) recent project proves that it is possible to build a top performing facility with *no impact on budget and no impact on schedule*. The recent project, which added 40,000 ft² of office space and upgrades to an existing building, incorporates design features and equipment that increase comfort and minimize environmental impacts through energy, water, and resource efficiency measures. This major addition is the first Colorado State building to receive national recognition through LEED (Leadership in Energy and Environmental Design) certification for its conservation of materials and resources during the construction phase as well as its energy efficiency, water conservation and healthy work environment.

Getting Started

"It wasn't nearly as complex or difficult as we had imagined" Project Architect with the State and design team member Lance Shepherd recalled of the

building project and LEED certification. Despite having limited experience with high performance buildings, Shepherd and his team have created the most environmentally friendly State building to date with guidance and support from the Colorado Governor's Office of Energy Management and Conservation (OEMC).

"IT WASN'T NEARLY AS COMPLEX OR DIFFICULT AS WE IMAGINED"

- Lance Shepherd, Project Architect, State of Colorado

Shepherd was recently involved in an energy efficiency retrofit using performance contracting with OEMC's assistance, and again looked to the Office for advice on the latest approaches for efficient new building design and construction. OEMC seized the opportunity to support the CDLE project by providing a grant to offset some of the additional costs associated with planning to create a more environmentally friendly building.

The project team began by holding a "design charrette," an intense brainstorming process to discuss goals for the new facility and identify solutions to sometimes complex design problems. They assembled CDLE employees to discuss in detail how their goals for the new building could be incorporated from the ground up. Better light, greater thermal comfort and control, energy efficiency, and an inviting space that allowed them to see the outdoors were high priorities. In addition, the group wanted to minimize the building's environmental impacts, making it healthier for the earth and for the people who work there. In essence, the employees identified the benefits that LEED certification would provide.

Enhanced Features of CDLE Building

- High efficiency HVAC
- High efficiency lighting
- Lighting controls
- Natural daylighting
- Energy management system
- Reflective roof coating
- Low flow faucets and toilets
- High recycled content of ceiling tiles, carpet
- Recycled materials from the deconstruction
- Low VOC paint
- Purchased local materials when possible
- Daylighting and views for call center employees
- Low toxicity of cleaning agents
- Purchase wind power for building

Getting the Team On Board

Since the LEED certification process was only recently created, the CDLE team was breaking new ground. They were worried that local building design, engineering, and construction professionals would balk at the idea and would lack the experience needed.

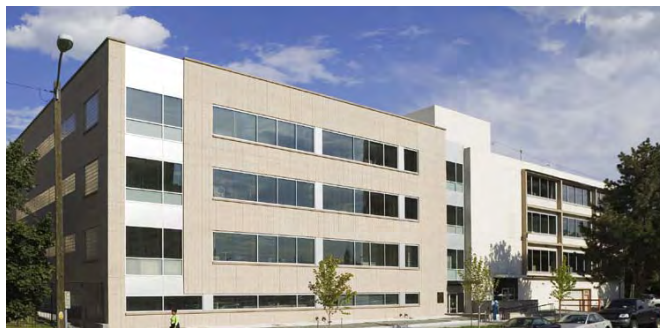
The selection team looked to the U.S. Green Building Council for LEED accredited architects and design professionals in Colorado. "For us, it was actually quite easy. Our architect and primary contractor were supportive and willing to do the work necessary to meet our high performance building objective," says Angie Fyfe, CDLE project manager. Hyder Construction did their homework, searching for building materials and equipment that met LEED's strict environmental criteria. Shepherd notes "This is the future of construction for us at the State level, and we want to work with partners that are dedicated to environmental design."

**"THIS IS THE FUTURE OF CONSTRUCTION FOR US AT THE STATE LEVEL,
AND WE WANT TO WORK WITH PARTNERS THAT ARE DEDICATED TO
ENVIRONMENTAL DESIGN."**

The Payoff

Many features are readily visible during a tour of the LEED Certified building. Natural light filters throughout the building. Open spaces, rather than closed offices line the perimeter of each floor to maximize sunlight and views. Exterior glass block walls, skylights and conference rooms with glass walls also help to infuse the building with natural, free sunlight.

Making efficiency and comfort high priorities in the design and construction process pays off long-term for employees. Angie Fyfe noted that frequent comfort complaints – both too hot and too cold – in the old CDLE building are now almost non-existent; maintenance calls are reduced as well. The use of low-toxicity paints, finishes, carpets and other materials throughout the building, as well as non-toxic cleaning products used every day in the building create a significantly healthier working environment for CDLE staff. Shepherd considers this improved indoor air quality the building's top feature. "Even the day after walls were painted and carpet was put down, we didn't have fumes and that awful new building smell."



The CDLE Addition is the first LEED Certified state-owned building in Colorado

We are the Champions

Ground-breaking success stories rarely happen without a champion. In this case, a group of champions came together to make the project work. It may have been easier to follow the same old script, but this group wanted to demonstrate that buildings can be better, healthier and have lower environmental impact without a great financial burden or schedule delays. With support from OEMC, dogged perseverance from the project team, and a construction company that recognized the value of this project as a stepping stone for future business, CDLE now has a new home that will pay dividends far into the future.



www.colorado.gov/rebuildco

For more information on OEMC's Rebuild Colorado Programs:

Governor's Office of Energy Management and Conservation
225 E. 16th Avenue, Suite 650, Denver, CO 80203
Tel: 303-866-2100 Toll free: 800-632-6662 Fax: 303-866-2930

Send comments, suggestions or questions to: rebuildco@state.co.us

Design & Construction Team

Angie Fyfe, CDLE Project Manager
Lance Shepherd, Project Architect, Colorado State Buildings and Real Estate Programs
Hyder Construction, Inc. – General Contractor
David Owen Tryba Architects – Building Architects,
Hadji and Associates, Inc. – Design, Mechanical, Electrical Engineers,
E Cube – Commissioning Agents (and Design Team members)